PLANTAE COLOMBIANAE, XVII
PHILODENDRA EX REGIONE AMAZONIAE NOVA

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Three interesting and extremely beautiful species of *Philodendron* from the Amazonian regions of Colombia, all apparently rather closely allied, have been found to be hitherto undescribed. There is no question in my mind but that the family Araceae in northwestern Amazonia is still, mainly as a result of inadequate collecting, very poorly studied and offers the botanist a wealth of species and varieties as yet unknown to science. The opportunities for discoveries of this sort seem to be better in the genus *Philodendron* than in most others, because of the diversity of species in this part of South America. A number of the species have interesting folk uses.

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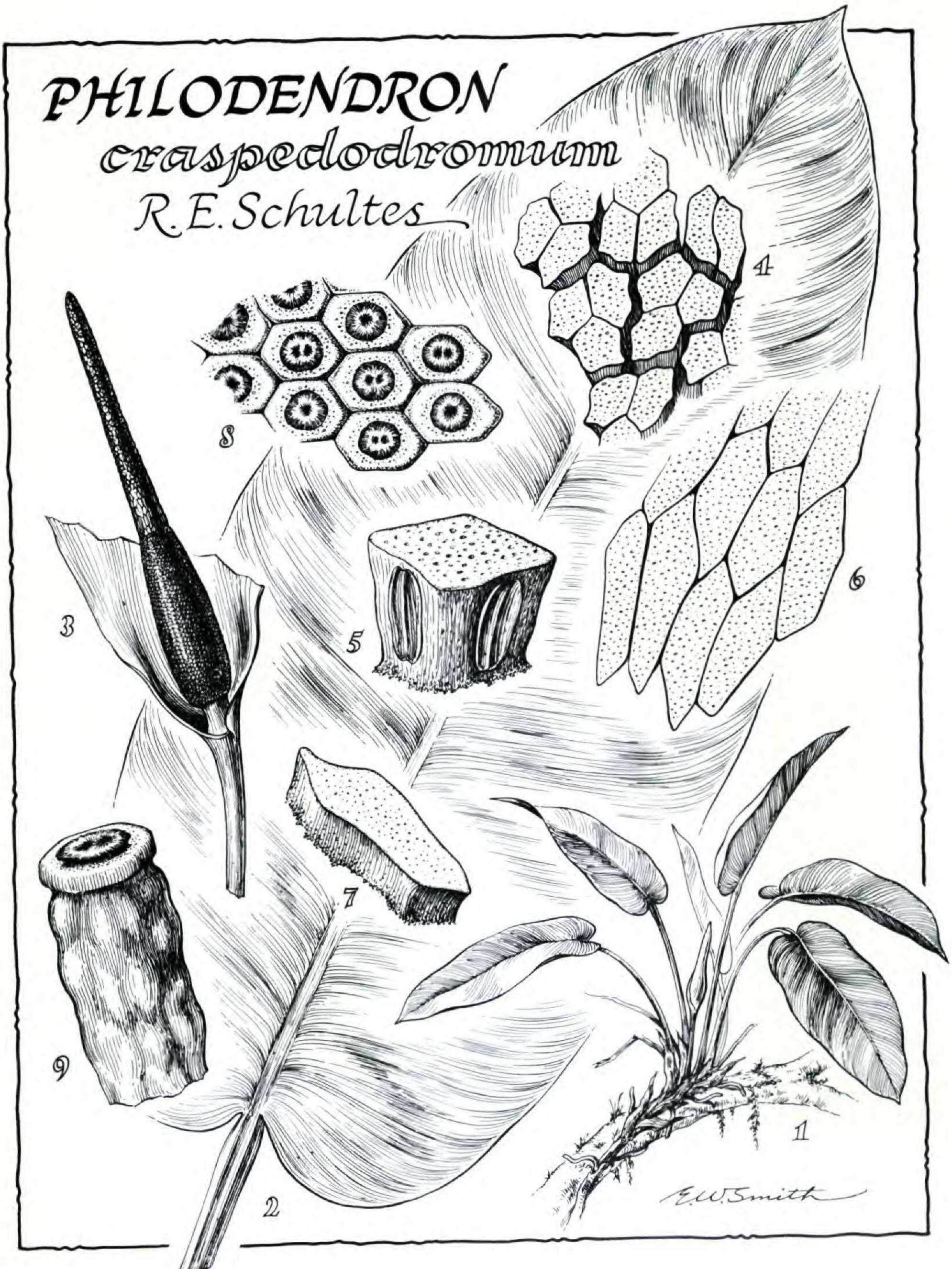
1. **Philodendron craspedodromum** R. E. Schultes, sp. nov.

Planta epiphytica, subvolubilis. Caudex crassus. Foliorum confertorum petiolus crassus, conspicue sulcatus, medio usque ad 45 cm. longus, 13 mm. diametriens. Lamina valde coriacea, supra nitidissima, subtus pallide viridis, lanceolato-elliptica, basi conspicue cordata, apice breviter acuminata, nervo centrale crasso, siccitate striato, basi plus minusve 1 cm. in diametro, nervis lateralibus plerumque aequalibus parallelibus, numerosissimis sub angulo plerumque obtuso e costa inferne latiuscula sursum evanescente prodeuntibus marginem versus leviter arcuatim adscendentibus percursa. Pedunculus spatha subaequalis, teres sed apicem versus incrassatus, viridis, plus minusve 12 cm. longus, 5-6 mm. diametriens. Spatha extus viridis, plus minusve 14 cm. longa. Spadix stipitatus (1 cm.), spatha subaequalis usque ad 12 cm. longus; inflorescentia feminea 4.5 cm. longa, basi incrassata et 1.7 cm. diametriens; mascula 5-5.5 cm. longa, plus minusve 6 mm. diametriens; masculae pars sterilis 1-1.4 cm. longa. Pistillum late columnare, apice valde truncatum, non-angulatum, plus minusve 3 mm. longum, 1.5 mm. in diametro, stigmate subcirculare piloso et corona carnosa armato; flores masculi diandri, staminodia truncata, irregulariter elongato-rhombica, plerumque 0.5 mm. longa, 0.3 × 0.8 mm. lata; stamina quam



Figs. 1-9, *Philodendron craspedodromum* R. E. Schultes. 1, Habit, × about 1/16. 2, Leaf, × about 2/5. 3, Inflorescence, slightly less than 1/2 natural size. 4, Portion of surface of distal part of spadix, showing stamens loosely grouped in threes, vaguely defining the staminate flowers, × about 10. 5, stamen, lateral view, × 25. 6, Portion of surface of sterile part of spadix, showing staminodes, × 10. 7, Staminode, lateral view, × about 10. 8, Portion of surface of basal part of spadix, showing pistillate flowers, × about 7 1/2. 9, Young fruit, × 10. Drawn by E. W. Smith.

staminodia valde inaequalia, apice valde truncata, 0.5 mm. longa, in circuitu quadrata, 0.5×0.5 mm. diametriens, antheris plus minusve 0.4 mm. longis.

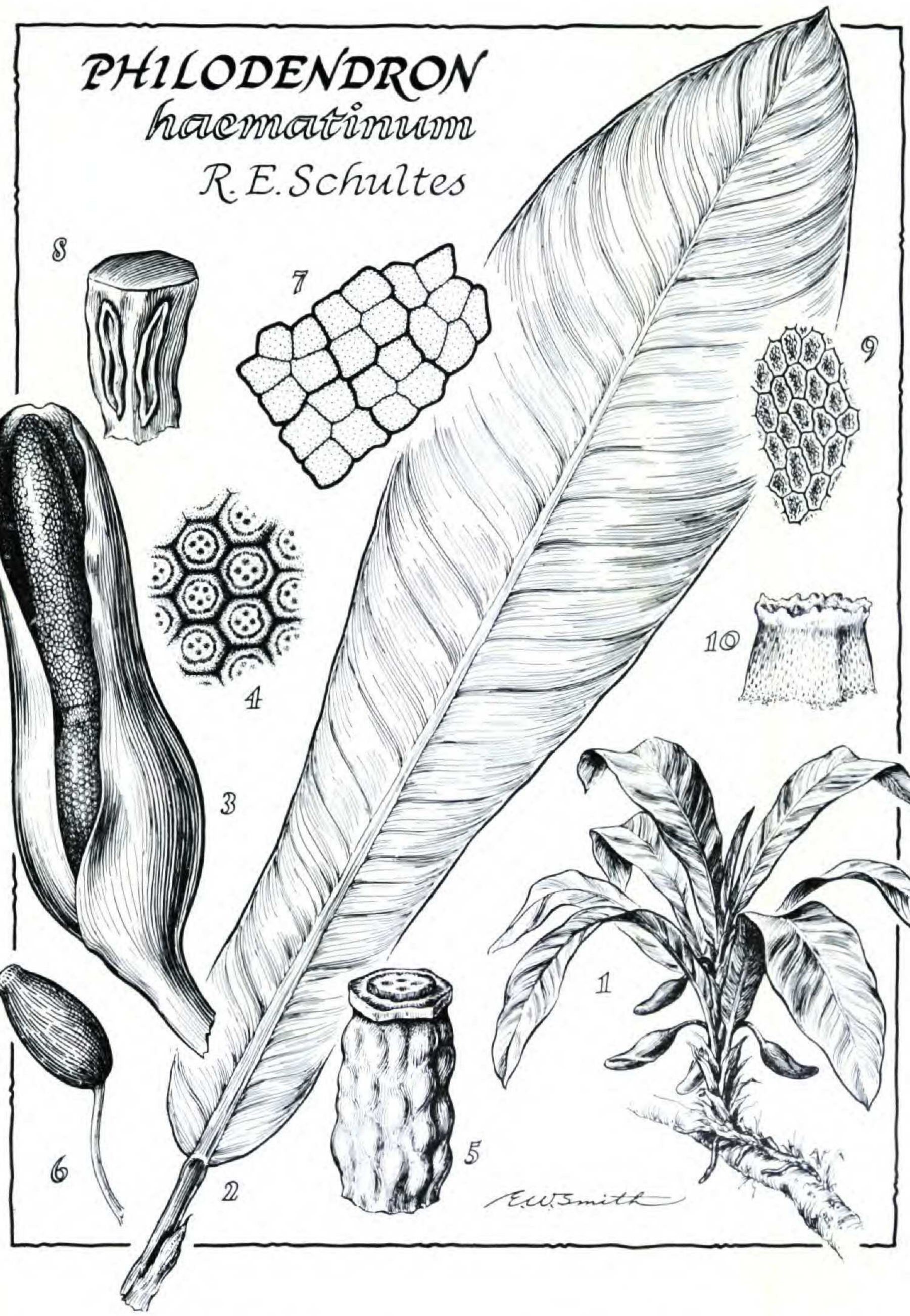
COLOMBIA: Comisaría del Vaupés, Río Apaporis, Raudal Yayacopi (La Playa) and vicinity. Quartzite base. Altitude about 800 ft. "Climbing and hanging. Spathe unopened: green outside. Epiphyte." February 15, 1952, *Richard Evans Schultes et Isidoro Cabrera 15347* (TYPE: US, Nos. 2167049, 2167050).

This species, *Philodendron craspedodromum*, appears to be closely related to *P. remifolium*, belonging to Section *Baursia* of subgenus *Philodendron*. The differences which separate the two are small but numerous, and the two have a somewhat different aspect in their natural habitat. *Philodendron craspedodromum* grows epiphytically (climbing or hanging) on tree-trunks in light forest on a quartzitic base, whereas *P. remifolium* is a terrestrial (caespitose) species found on granitic sands. In the former, the zone of pistillate flowers occupies a much larger area (nearly half the spadix) than in the latter (where it measures about one-quarter of the spadix); the staminate flowers, though vaguely defined, tend to occur in two or three parts, rather than in four; the staminodes are larger and more elongated than in *P. remifolium*. The leaves of *Philodendron craspedodromum* tend to be narrower and more cordate than those of *P. remifolium*. A conspicuous difference between *Philodendron craspedodromum* and *P. haematinum* and *P. remifolium* is the complete homogeneity of all of the very numerous, parallel and unbranched lateral nerves (whence the specific name *craspedodromum*) in the former, whereas the latter species have some of the lateral nerves heavier than the rest.

The leaves and petioles of *Philodendron craspedodromum* are reputed by the Desano Indians of the Río Papurí to be toxic to fish when crushed and cast into stagnant waters. When used for fish-poisoning, the leaves are cut, tied into small bundles and set on the forest floor for one or two days to "steam" and start fermentation and rotting before being crushed for use.

2. **Philodendron haematinum** R. E. Schultes, sp. nov.

Caudex crassus brevissimusque. Foliorum confertorum erectorum petiolus tumescens crassus, semiteres, basi subpurpurescens, breviter



Figs. 1-10, *Philodendron haematinum* R. E. Schultes. 1, Habit, × about 1/20. 2, Leaf, × about 3/16. 3, Inflorescence, slightly less than 1/2 natural size. 4, Portion of surface of basal part of spadix, showing pistillate flowers, × about 5. 5, Young fruit, × about 6. 6, Ovule or young seed, × about 20. 7, Portion of surface of distal part of spadix, showing stamens from above, × about 5. 8, Stamen, lateral view, × about 10. 9, Portion of surface of sterile part of spadix, showing staminodes, × about 5. 10, Staminode, lateral view, × about 15. Drawn by E. W. Smith.

vaginatus, 10-15 cm. longus, 2-2.3 cm. in diametro. Folia atroviridia, supra nitidula, crassiuscula, coriacea, erecto sed medio arcuate nutantia, lamina oblanceolata, apice acuta, basi rotundata, 75-90 cm. vel ultra longa, plus minusve 25 cm. lata, nervo centrale crassissimo-cartilagineo, basi usque ad 1.3 cm. diametriens, lateralibus numerosissimis, densissimis, omnibus subaequalibus angulo circiter 50° a costa modice valida abeuntibus marginem versus subarcuatim adscendentibus percursa. Pedunculi longi, teretes, crassissimi, valde purpurei vel atrosanguinei, usualiter angulo 45° a caudice abeuntes sed saepissime leviter arcuati, usque ad (vivo) 1.5 cm. in diametro, 25 cm. longi, ad spadicem valde inglati. Spatha crassa, extus vinicolor sed intus sanguinea, oblonga, apice rotundata, 15 cm. longa, plus minusve 6 cm. lata, tubo elongato-ovoideo, medio leviter constricto, basi 5-5.5 cm. in diametro, usque ad 16 cm. longo. Spadix albus, maturitate subflavescens vel brunneus, apice obtusus, non stipitatus, 11-15 cm. longus; inflorescentia feminea masculam subaequans, 6 cm. longa, maturitate 2-2.3 cm. in diametro, mascula 7.5 cm. longa, 1.6 cm. in diametro, inflorescentiae masculae pars sterilis brevissima, 0.6 cm. longa, et 1.2 cm. in diametro. Pistillum late columnare, apice valde truncatum, angulatum, conspicue tuberculosum, plus minusve 3 mm. longum, stigmate plus minusve hexagonale piloso coronatum; flores masculi 2- vel 4-andri, stamina plus minusve 2.2 mm. longa; anthera circiter 1.6 mm. longa; staminodium subcolumnare, truncatum, apice valde serrato-laciniatum, angulatum, circiter 1.2 mm. longum, 1 mm. diametriens.

COLOMBIA: Comisaría del Amazonas, Río Caquetá, La Pedrera and vicinity. "Epiphyte. Spathe deep wine-coloured, red inside. Spadix whitish." October 12, 1952. *Richard Evans Schultes et Isidoro Cabrera 17804*. (TYPE: ECON). Comisaría del Vaupés, Río Apaporis, Soratama (above mouth of Río Kananarí) and vicinity. Alt. about 900 ft. "Epiphyte. Peduncle and spathe purplish." March 26, 1952. *R. E. Schultes et I. Cabrera 16067*. Comisaría del Vaupés, Río Kuduyarí, Yapobodá (Quartzite savannah near headwaters). "In trees. Spadix pure white. Spathe scarlet within, maroon without. Stalk maroon." August 16, 1960. *R. E. Schultes 22678*.

This species, *Philodendron haematinum*, so named because of the excessive amounts in the spathe of red sap which stains anything with which it comes in contact, appears to be related to *P. dyscarpium* R. E. Schult., *P. remifolium* and *P. craspedodromum*. It belongs to Section *Baursia* of subgenus *Philodendron*, but it is distinct from other members of this group on a number of points. Principal of these distinguishing characters are the curiously arching inflorescence and certain floral structures, such as the very short staminodes which are crowned with a serrate-lacinate membranous ring.

Plate 1294. *Philodendron haematinum* R. E. Schultes. Photograph of the plant from which the collection *Schultes 22678* from the Vaupés of Colombia was made. Photograph by R. E. Schultes.

The red colouring matter in the spathe has magical significance to witch-doctors of the Kubeo Indians living along the Río Kuduyarí. Although I was unable to ascertain its real significance, I have on several occasions seen witch-doctors, by handling these spathes, dye their hands red before "theating" a patient.

3. **Philodendron remifolium** R. E. Schultes, sp. nov.

Planta terrestris, arenicola, caespitosa, subacaulis caudice abbreviato. Caudex brevis, crassus. Foliorum confertorum petiolus crassus, subteres sed leviter sulcatus, usque ad 45 cm. longus, medio usque ad 1 cm. in diametro. Lamina valde coriacea, supra nitida, subtus pallide viridis, elliptica vel conspicue remiformis, rotundata sed apice ipso brevissime apiculata, basi rotundata vel subcordata, plus minusve 35 cm. longa, 21 cm. lata, nervo centrale crasso, siccitate striato, basi 1 cm. diametriens, nervis lateralibus primariis plus minusve vigintiquinque parallelibus, secundariis numerosissimis, densissimis, subaequalibus sub angulo plerumque obtuso e costa inferne latiuscula sursum evanescente prodeuntibus marginem versus leviter arcuatim adscendentibus percursa. Pedunculus quam spatha paulo longior, teres, sanguineo-viridis, 15 cm. longus, 0.5 cm. diametriens, apicem versus incrassatus. Spatha extus albo-viridis, basim versus rufo-viridis, intus flavescens vel rufo-flava, plus minusve 13.5 cm. longa, 3.5 cm. lata. Spadix cylindricus, stipitatus (1 cm.) spatham subaequans usque ad 15 cm. longus; inflorescentia feminea brevissima, 2.5 cm. longa, 1.5 in diametro, mascula 7 cm. longa, plus minusve 1 cm. in diametro, masculae pars sterilis brevis, plus minusve 1.5 cm. longa, 1.3 cm. in diametro. Pistillum late columnare, apice valde truncatum, angulatum, plus minusve 1.8 cm. longum, 0.8 mm. in diametro, stigmate hexagonale piloso et corona carnosa armato; flores masculi 2-andri, staminodia truncata plus minusve 1.5 mm. longa, 1.5 mm. in diametro; stamina quam staminodia aequalia, antheris 1.3 mm. longis, apice valde truncata et indurata.

COLOMBIA: Comisaría del Vaupés, Río Paca (tributary of Río Papurí), Wacaricuara and vicinity. Alt. about 650 ft. Lat. 0°30′ N, Long. 70°10′W. June 1-3, 1953, *Richard Evans Schultes et Isidoro Cabrera 19553* (TYPE: ECON).

Known in the Tukano language as *bĕ-kĕ-ta-po*, *Philodendron remifolium* appears to differ from other species of the western Amazon in its conspicuous paddle-shaped leaf — whence the specific epithet. Its very distinctive caespitose habit likewise is not seen commonly in Amazonian species of the genus.

Belonging to subgenus *Philodendron*, Section *Baursia*,

Figs. 1-11, *Philodendron remifolium* R. E. Schultes. 1, Habit, × about 1/16. 2, Leaf, slightly less than 1/2 natural size. 3, Inflorescence, × about 1/2. 4, Spadix and partly dissected spathe, × about 1/2. 5, Portion of surface of distal part of spadix, showing vaguely distinct staminate flowers, × about 3. 6, Stamen, lateral view, × about 10. 7, Portion of sterile part of spadix, showing staminodes, × about 3. 8, Staminode, lateral view, × about 10. 9, Pistil, lateral view, × about 15. 10, Portion of surface of basal part of spadix, showing pistillate flowers, × about 7 1/2. 11, Ovule, × about 60. Drawn by E. W. Smith.

this new species appears to be most closely allied to *Philodendron dyscarpium* and *P. haematinum*. From both species, it can readily be distinguished by differences in leaf shape and in habit of growth. The structure of the pistil (especially of the pilose stigma elevated on a carnose crown), the stamen and the staminodia is very appreciably distinct in the three species. There are, likewise, differences in colour of the spathe and spadix.

The coarsely leathery leaves of *Philodendron remifolium* are dried, chopped into small pieces and added to fermenting chicha made from various fruits for Tukanoan festivals. The aroid leaves are said to impart an acidic flavour to the beverage.

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